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EXAMINER

KLIMACH, PAULA W

ART UNIT PAPER NUMBER

2135

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/360,068

Applicant(s)

PAGE ET AL.

Examiner

Paula W Klimach

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Response to Amendment

This office action is in response to amendment filed on 09/15/2004. Original application contained Claims 1-35. Applicant cancelled Claim 3, and amended Claim 1. The amendment filed on 09/15/2004 have been entered and made of record. Therefore, presently pending claims are 1-2 and 4-35.

Response to Arguments

Applicant's arguments filed 09/15/2004 have been fully considered.

In reference to claim 18, applicant argued that Hohle does not perform a security function on the data at the central station. This is not found persuasive. Hohle discloses the data is "signed" by the central computer by producing the MAC, column 22 lines 53-58. This is a security function. Therefore, the examiner asserts that Hohle does teach or suggest the subject matter broadly recited in independent Claim 18. Dependent Claims 19-20 are also rejected at least by virtue of their dependency on independent claims and by other reason set forth in this office action. Accordingly, rejections for claims 18-20 are respectfully maintained.

In reference to claim 21, the applicant argued that Murphy teaches away from downloading interface software to a processor from a remote computer system. This is not found persuasive. Murphy discloses downloading of a smart card interface (column 6 lines 9-32).

The applicant argues further, "Murphy is directed to reducing bottlenecks in terms of speed and convenience and utilizing a method and apparatus for authenticating a user over a network without having to install hardware or software on the client. Hohle, as explained above,

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is directed to integrating important travel related application. Therefore, there is no suggestion, teaching or incentive to support the combination of the prior art references as cited by the Examiner.” However, the examiner would like to point out the system of Hohle includes an authentication process (column 21 lines 44-46). Therefore the system of Murphy would add to the system of Hohle a security system wherein, in order to access the restricted information, the smart card interface may be downloaded from the Internet. Therefore, the examiner asserts that Hohle and Murphy do teach or suggest the subject matter broadly recited in independent Claim 21. Dependent Claims 22-25 are also rejected at least by virtue of their dependency on independent claims and by other reason set forth in this office action. Accordingly, rejections for claims 21-25 are respectfully maintained.

In reference to claims 1 and 29, applicant’s arguments have been considered and are found to be persuasive. The delay in citation of the newly discovered prior art is regretted.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 18** is rejected under 35 U.S.C. 102(e) as being anticipated by Hohle et al (6,101,477).

In reference to claim 18, Hohle discloses a system where data is exchanged with a smart card through radio frequency communication, column 3 lines 31-51. The data is exchanged with a central computer, the issuer 10, through a network, Fig. 10. The data is "signed" by the central computer by producing the MAC, column 22 lines 53-58. Therefore, the security function on the data.

In reference to claim 19, the security function is as discussed in the reference to claim 2.

In reference to claim 20, since the data is transported over the network as shown in Fig 10, the data is evidently formatted in accordance with the communication network protocol for the network in Fig. 10, and reformatted at the central computer. The data is transmitted through the communication network as shown in Fig. 10.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4-17, 29, 30-35 are rejected under 35 U.S.C. 102(e) as being anticipated by Hohle et al (6,101,477) in view of Zuk (5,745,571).

In reference to claims 1 and 29, Hohle teaches a system for establishing a secure connection between a smart card and a central computer (issuer 10), Fig. 10. The system uses the method of modulating an outgoing secure radio frequency signal transmitted from the smart card to produce an out going secure data signal, column 3 lines 31-51. The connection described by

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Hohle is a secure connection because the system uses the DES algorithm for encryption of a random number in the challenge/response authentication, column 11 line 63 to column 12 line 36. Since that data is sent over the network disclosed in Fig. 10, it must be formatted in accordance with a communication network protocol to produce an outgoing format. Finally, in column 5 line 64 to column 6 line 4, the formatted signal is sent to the central computer system, issuer 10. The card is described as communicating with the issuer 10 through the client host (the access point) and therefore, for communication to take place a signal must be sent from the card to the central computer system.

Although Hohle discloses a system wherein the smart card transactions have a security dimension (column 21 line 43 to column 22 line 36), Hohle does not expressly disclose the outgoing transmission sent without deciphering the data.

Zuk discloses encrypting secret data in the smart card and therefore transmitting the data from the smart card reader to the central station without deciphering the information (column 5 lines 62-67).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to encrypt the data in the smart card as in Zuk in the system of Hohle. One of ordinary skill in the art would have been motivated to do this because it would discourage a third party from intercepting unencrypted data (Zuk column 1 lines 1-67).

In reference to claims 2 and 30, Hohle subjects the out going data to a security function only in the smart card and the central computer system. The data is "signed" by the central computer by producing the MAC, column 22 lines 53-58. The card then produces a MAC based

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on the received message and compares them and the two MACs will not match if the message or the wrong key has been used, column 22 lines 59-67.

In reference to claim 4, the data at the central computer (the bank computer 150) is transformed back into plain text, column 16 lines 45-47. The data is sent over the network to the central computer, column 16 line 34, as a result, it is apparent that it must have been reformatted.

In reference to claim 5, the system disclosed by Hohle receives the incoming secure formatted signal from the central computer as discussed in claim 1. Wilson teaches that communication in the opposite direction, in this case from the central computer to the smart card, may be performed in the same way, column 15 lines 30-43.

In reference to claims 6 and 33, the Hohle reference teaches of contactless cards using phase, frequency and amplitude modulation, column 3 lines 44-45, therefore the reader demodulates the signal sent over radio frequencies. Wilson teaches applying cipher text to a decryption module to arrive at the plain text, column 15 lines 30-51.

In reference to claim 7, the security function is as discussed above in the discussion for claim 6.

In reference to claims 8 and 34, the data is encoded in the smart card, as discussed for claim 3, which would make the outgoing data signal secure.

In reference to claim 9, Hohle further teaches generating a MAC at the smart card and then appending it to the outgoing data as a electronic seal to sign the data, column 22 lines 47-67.

In reference to claim 10, 11, 15, 16, and 35, Hohle discusses the use of a MAC to seal messages with in order to detect an unauthorized modification of the outgoing data, column 22 lines 47-67.

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In reference to claim 14, Hohle discloses a system where a MAC and appended to the message, column 22 lines 47-67.

In reference to claim 17, encoding using a smart card and transmitting the radio frequencies, the modulation of the outgoing radio frequency, formatting of the secure data, and the transmission of outgoing data has been discussed in reference to claim 1. The reformatting of the outgoing secure signal and decoding of the signal has been discussed in reference to claim 4. While the reference to claim 8 discusses the encoding of information from the central computer. It is evident that since the signal is sent over the network, it would be formatted to produce an incoming formatted signal. The reference to claim 5 discusses the receiving, reformatting, and transmission of the secure signal. Finally the demodulation and the decoding of the secure data signal is discussed in reference to claim 6.

In reference to claim 12-13, 31-32, Zuk discusses the use of a smart card to encrypt data using software stored on the card and being able to perform the communication in both directions (column 5 lines 49-67).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to encrypt the data in the smart card as in Zuk in the system of Hohle. One of ordinary skill in the art would have been motivated to do this because it would discourage a third party from intercepting unencrypted data (Zuk column 1 lines 1-67).

Claims 21-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hohle in view of Murphy et al (6, 226, 744 B1).

In reference to claim 21, Hohle discloses a system for communication between a smart card and a central computer with the ability for some of the software to exist outside the card and be downloaded during transaction, column 4 lines 49-54. The secure data is exchanged with the smart card reader using radio frequency communication, column 3 lines 42-45. Although Hohle discloses a system that includes an authentication process, Hohle does not disclose a system where interface software can be downloaded to perform the authentication.

Murphy discloses a system where a user can download a smart card interface module to the client terminal for the authentication process, column 6 lines 8-25.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to add the Client terminal 14 described by Murphy to download the interface for the authentication process disclosed by Hohle and using the smart card and smart card reader disclosed by Hohle. One of ordinary skill in the art would have been motivated to do this because users would be able to access restricted information with the smart card without having to install software, column 3 lines 24-28.

In reference to claim 22, the secure data is exchanged over a baseband channel, Murphy fig 1 where the smart card reader is connected to a client terminal, which then connects to the network. Hohle discloses a system that exchanges data with a central computer.

In reference to claims 23 and 24, Hohle further describes a system where the central computer creates the MAC and the smart card calculates it and compares it to the MAC that it expects and it is not calculated during transmission, column 22 lines 47-67.

In reference to claim 25, the smart card reader described by Murphy is connected to a client terminal, Fig. 1. The smart card reader described by Hohle is a proximity card, Hohle

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column 3 lines 31-50. In Hohle Fig. 10 the access points are connected to a network. The central computer calculates the MAC and therefore has a security device coupled to it, column 22 lines 47-67

In reference to claim 26, the client terminal in Hohle works on the Internet (column 6 lines 14-17).

In reference to claim 27 and 28, claim 27 is the same discussion as in the reference to claim 23 and 24.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paula W Klimach whose telephone number is (571) 272-3854. The examiner can normally be reached on Mon to Thr 9:30 a.m to 5:30 p.m.

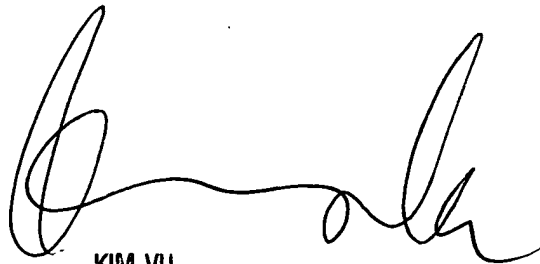
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on (571) 272-3859. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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PWK
Monday, January 24, 2005

A handwritten signature in black ink, appearing to read 'Kim Vu', with a stylized, cursive script.

KIM VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2135